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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/829,484   | 04/22/2004  | William W. Shumway   | HALB:052            | 7357             |
| 7590   | 04/02/2007  |                      | EXAMINER            |                  |
| Karen B. Tripp<br>Attorney at Law<br>P.O. Box 1301<br>Houston, TX 77251-1301 |             |                      | FIGUEROA, JOHN J    |                  |
|  |             |                      | ART.UNIT            | PAPER NUMBER     |
|  |             |                      | 1712                |                  |
| SHORTENED STATUTORY PERIOD OF RESPONSE                                       |             | MAIL DATE            | DELIVERY MODE       |                  |
| 3 MONTHS   |             | 04/02/2007           | PAPER               |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 10/829,484             | SHUMWAY, WILLIAM W. |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | John J. Figueira       | 1712                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 16 December 2006.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-79 is/are pending in the application.  
 4a) Of the above claim(s) 38-56 and 62-79 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-37 and 57-61 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/24/06 &amp; 12/16/06</u> | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The objection to the specification of record in item 8 on page 4 of the Office Action of June 16, 2006, hereinafter 'OA', has been withdrawn in view of the amendment to the specification in Applicant's response to OA filed December 16, 2006, hereinafter 'Response'.
2. The double patenting rejection in item 10 on page 5 of OA has been withdrawn in view of the Terminal Disclaimer filed with Response.
3. The 35 U.S.C. 103 rejection of claims 1-37, 57 and 59-61 as unpatentable over United States Patent Number (USPN) 5,990,050 to Patel et al., hereinafter 'Patel', in view of "Amphiphilic Copolymers" to Perrin, hereinafter 'Perrin', is maintained for the reasons previously made of record in item 12 on page 6 of OA.
4. The 35 U.S.C. 103 rejection of claim 58 as unpatentable over Patel in view of "Crude Oil Emulsions: A State of the Art Review" to Kokal, hereinafter 'Kokal' is maintained for the reasons previously made of record in item 13 on page 8 of OA.

### ***Election/Restrictions***

5. Applicant's affirmation of the election provisionally made with traverse of Group I, claims 1-37 and 57-61 in the reply filed on September 6, 2006 is acknowledged. Claims 38-56 and 62-79 had been withdrawn

There were no arguments presented traversing the grounds of the restriction requirement. Thus, the requirement is still deemed proper and is therefore made FINAL.

***Response to Arguments***

**The Objection to the Specification (item 8 of OA)**

6. Applicant's arguments with respect to the captioned objection to the specification have been considered but have become moot due to the withdrawal of the rejection in view of the amendment to the specification in Response.

**The Double Patenting Rejections (item 10 of OA)**

7. Applicant's arguments with respect to the captioned obviousness-type double patenting rejection have been considered but have become moot due to the withdrawal of this rejection in view of the filing of the Terminal Disclaimer with Response.

**The 35 U.S.C. 103 Rejection over Patel and Perrin (item 12 of OA)**

8. Applicant's arguments with respect to the 35 U.S.C. 103(a) rejection of claims 1-37, 57 and 59-61 as unpatentable over Patel in view of Perrin have been fully considered but deemed unpersuasive.

Applicant's arguments concerning Patel disclosing VERSACOAT® as a surfactant package (and not simply as an emulsifying agent) in preferred embodiments are misguided.

First, as discussed in item 12 of OA, Patel discloses the composition to contain wetting agents or emulsifiers and lists NOVAMUL® among the emulsifiers expressly disclosed “that may be used for the invention.” (Col. 5, lines 16-18) NOVAMUL® is an emulsifier that provides enhanced emulsion and physical stability. (See, NOVAMUL® product sheet in Applicant’s IDS of 12/16/2006) Accordingly, Patel is disclosing the composition can contain NOVAMUL® (an emulsifier not a surfactant). (See, independent claims 1 and 12 in Patel reciting the composition to contain an emulsifier but not requiring a surfactant).

Second, in response to Applicant’s reliance on VERSACOAT® (which can be a surfactant package) as the emulsifying agent used in the Examples in Patel, “[d]isclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments.” *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. See MPEP 2123. Thus, the Patel reference should be viewed as a whole and it is prior art for all it contains therein.

As previously stated on page 7, lines 7-16 of OA:

“Patel discloses the drilling fluid to further contain *wetting agents or emulsifiers*, such as crude tall oil, oxidized crude tall oil, alkyl aromatic sulfates and sulfonates; organophilic clay; an oil-soluble polymer or a polyamide resin as a viscosifier; weighting agents; fluid loss control agents; and corrosion inhibitors, such as silicates. (Col. 5, lines 1-15 and 22-63) Patel lists a series of emulsifiers ... followed by an

alternate, separate list of surfactants, which can be instead used to produce or stabilize the invert-emulsion. Thus, Patel does not require that the invert-emulsion contain a surfactant." [Emphasis added.]

Patel further discloses in col. 5, lines 1-15 (cited in OA) that:

"[t]he fluids of the present invention may further contain additives *depending upon the end use of the drilling fluid or invert emulsion* so long as the additives do not interfere with the properties of the fluids described herein. For example, *wetting agents*, organophilic clays, viscosifiers, weighting agents, bridging agents, fluid loss control agents, and corrosion inhibitors may be added to the fluid compositions of this invention for additional functional properties. The addition of such agents should be well known to one of skill in the art of formulating drilling fluids and muds. ... *Wetting agents and emulsifiers that may be suitable for use in this invention include*, crude tall oil, oxidized crude tall oil, surfactants, organic phosphate esters, modified imidazolines and amidoamines, alkyl aromatic sulfates and sulfonates, and the like, and combinations or derivatives of these." [Emphasis added.]

Accordingly, the emulsifying agent disclosed in Patel can be chosen from a number of emulsifying agents and need not be a VERSACOAT® surfactant package. The emulsifying agent can instead be a wetting agent or other non-surfactant emulsifier (such as NOVAMUL®) as disclosed by Patel.

Furthermore, Examiner respectfully draws Applicant's attention to paragraph [0030] on page 13 of the Applicant's specification:

"[0030] Other types of emulsion additives ... optionally may be added to the emulsion compositions of the present invention including, but not limited to, weighting agents, *wetting agents*, fluid loss agents, viscosifying agents, thinning agents, lubricants, anti-oxidants, *surfactants that are suitable for a purpose other than stabilizing an emulsion*, corrosion inhibitors, scale inhibitors, and the like. When used in certain applications, the emulsion compositions of the present invention may include particulates such as proppant or gravel. One of ordinary skill in the art with the benefit of this disclosure will recognize the appropriate type of additive for a particular application." [Emphasis added]

Therefore, because Patel discloses the emulsifying agent can be, e.g., a wetting agent (or other non-surfactant emulsifying agent) and Applicant's specification discloses wetting agents (and some surfactants) as an example of an emulsion additive for the claimed invention, then Patel meets the "surfactant-free" limitation of the instant claims as they are interpreted in accordance with the Applicant's specification.

In response to Applicant's argument that Perrin is nonanalogous art, it has been held that a prior art reference must either be in the field of Applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which Applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

In this case, Applicant's claims are drawn to a method of treating a subterranean formation comprising a surfactant-free *emulsion*. Patel is drawn to water-soluble invert *emulsions* (see title). Perrin teaches a new route to prepare ordered monodisperse *emulsions* (see title). Accordingly, a person of ordinary skill in the art would look to scientific/technical journal articles regarding emulsion to solve problems regarding the use/application of emulsions in industries, such as in oil drilling technology.

Moreover, Applicant's arguments that Perrin is "non-analogous art" because it is not related to emulsions in oil drilling/well bore technology is inconsistent with Applicant's listing of said Perrin reference on page 5, lines 10-11 in the Information Disclosure Statement filed July 19, 2004.

Concerning Perrin teaching the polymeric emulsifier for a different use and that Perrin "is not concerned with improving emulsion stability [in oil drilling]", the fact that

Applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

In addition, Applicant's citation of Perrin in lines 1-3 on page 22 of Response teaches the "*higher emulsifying potential* of [certain] macromolecules over small-molecule surfactants even under packing constraints." [Emphasis added.] Consequently, Perrin is teaching advantages of macromolecule emulsifiers over surfactants and is therefore "teaching away" from the use of surfactants.

Finally, in response to Applicant's arguments regarding Perrin teaching "exceptional resistance" of a film to breaking and that this property cannot be measured in oil industry applications, Examiner did not merely rely on this specific property as the suggestion to one skilled in the art to combine Patel with Perrin, but instead on Perrin's overall teachings concerning providing a resultant uniform and stable emulsion. (See, item 12 of OA, page 8, lines 12-15)

Thus, the instant claims remain unpatentable over Patel and Perrin.

*The 35 U.S.C. 103 rejections over Patel, Perrin and Kokal (item 13 of OA)*

9. Applicant's arguments with respect to these 35 U.S.C. 103 rejection of claim 58 as unpatentable over Patel in view of Perrin, and further in view of Kokal, have been fully considered but deemed unpersuasive.

As discussed in OA, Patel does not expressly disclose the composition comprising a breaker. Kokal teaches breakers are commonly used in the art for chemical demulsification. Kokal, in combination with Patel, thus supplies this missing limitation regarding the breaker because it would provide effectiveness in producing fluids. (See, OA, page 9, lines 1-11)

Kokal is clearly cited as a secondary reference to show the commonality of adding a breaker to a drilling/treatment fluid in the oil field art. Whether or not Kokal uses said breaker for a different purpose as argued by Applicant (i.e., crude oil emulsions in Kokal as opposed to the emulsion-based drilling and well treatment fluids of the instant invention) is not relevant as to whether it would have been obvious to a person skilled in the art, at the time of the instant invention, to add a breaker to the composition disclosed in Patel due to the commonality of using breakers in oil drilling/treatment fluids as taught by Kokal. Also, it is not clear from Applicant's arguments how distinct the emulsions taught in Kokal are from those encompassed by the instant claims.

Thus, the claims remain unpatentable over Patel, Perrin and Kokal.

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

Art Unit: 1712

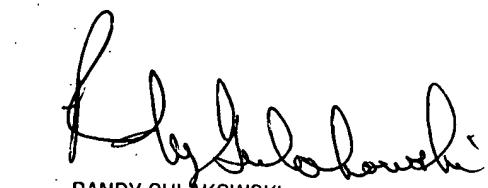
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571) 272-8916. The examiner can normally be reached on Mon-Thurs & alt. Fri 8:00-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJF/RAG



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